

REMARKS

The Office Action dated November 17, 2004, has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 17, 18, 22, 25-27, 29, 31, 34 and 35 are amended to more particularly point out and distinctly claim the subject matter of the invention. New claims 37-39 are added. No new matter is added by the amendments or new claims, and no further consideration and/or search is required. Support for the amendments and new claims may be found throughout the specification, for example, on page 11, line 22, to page 12, line 28. Thus, claims 17-39 are presently pending in the subject application and are respectfully submitted for consideration.

Claims 17-21, 24-29 and 31-35 were rejected under 35 U.S.C. § 102(b) as allegedly being unpatentable by U.S. Patent No. 5,479,481 (*Koivunen*). The Office Action took the position that *Koivunen* taught all the elements of claims 17-21, 24-29 and 31-35. Applicant respectfully traverses the anticipation rejection and submits that the cited reference does not disclose or suggest all the features of any of the presently pending claims.

Claim 17, upon which claims 18-21, 24 and 25 are dependent, recites a method for restoring a subscriber context in a mobile communication network which includes at least a first and a second network element. The second network element stores a plurality of subscriber contexts related to the first network element. The method includes storing

restart information for the first network element at the second network element. The method also includes receiving a message at the second network element from the first network element. The restart information indicates whether the first network element has been restarted and whether a subscriber context has been updated in the first network element after the latest restart. The method also includes creating a response to the message at the second network element. The response includes restart information indicating whether the second network element has been restarted. The method also includes transmitting the response to the first network element from the second network element. The method also includes comparing the restart information of the message received in the receiving step with the restart information stored for the first network element at the second network element. The method also includes inactivating all subscriber contexts which are stored in the second network element for use of the first network element and have been updated before the latest restart of the first network element when the restart information of the message received in the receiving step differs from the restart information stored for the first network element.

Claim 26, upon which claims 27-29 are dependent, recites a system for restoring a subscriber context in a network element of a mobile communication network which includes at least a first and a second network element. The second network element stores a plurality of subscriber contexts related to the first network element. The system includes storing means for storing restart information for the first network element at the second network element. The system also includes receiving means for receiving a

message at the second network element from the first network element. The message includes restart information indicating whether the first network element has been restarted and whether a subscriber context has been updated in the first network element after the latest restart. The system also includes control means for continuing the use of a subscriber context updated after the latest restart and for inactivation of the plurality of subscriber contexts which are stored in the second network element related to the first network element and have been updated before the latest restart, in response to the restart information. The system also includes transmitting means for transmitting a restart information from the second network element to the first network element, including a restart counter for counting a restart number and adding means for adding said restart number to a subscriber context message.

Claim 31, upon which claims 32-35 are dependent, recites a network element for a mobile communication network. The network element includes transmitting means for transmitting restart information from the network element to another network element. The restart information indicates whether the network element has been restarted and whether a subscriber context has been updated in the network element after the latest restart. The network element also includes receiving means for receiving restart information from the another network element. The restart information indicates whether the another network element has been restarted and whether a received subscriber context has been updated in the another network element after the latest restart.

As discussed in the specification, examples of the present invention enable an inactivation of all subscriber contexts using a restarted node that have been updated before the latest restart. If a GPRS support node is restarted, only PDP contexts that were updated before the restart and that use the restarted GPRS support node are inactivated. Thus, examples of the present invention allow the immediate freeing of all resources reserved for the affected PDP contexts that were updated before the latest restart because the restart information is received as quickly as possible. The amount of unnecessary subscriber context re-activations and corresponding downtime of the service is reduced. Moreover, the amount of signalling required after the restart is reduced because a smaller number of subscriber contexts have to be re-established. It is respectfully submitted that the cited reference fails to disclose or suggest all the elements of any of the presently pending claims. Therefore, the cited reference fails to provide the critical and unobvious advantages discussed above.

Koivunen relates to a method for updating subscriber data in a cellular radio system. *Koivunen* describes using a home location register restart number which is compared, in a visitor location register (VLR), with a subscriber-specific restart number of the subscriber. When a certain HLR sends a restart indication to the VLR, the VLR changes the restart number of the HLR in the HLR list. The VLR of *Koivunen* compares these restart numbers when receiving an indication of establishment of a radio connection to the subscriber from a mobile exchange. The location data of the subscriber in the home location register (HLR) are updated, if required, on the basis of the comparison.

When the subscriber-specific restart number and the HLR restart number should be equal, *Koivunen* describes the subscriber location data not being updated. Thus, subscriber data of *Koivunen* are either updated in the event of different restart numbers or are not updated in the event of equal restart numbers.

Applicant submits that the cited reference does not disclose or suggest all the features of the presently pending claims. For example, applicant submits that *Koivunen* does not disclose or suggest “storing restart information for the first network element at the second network element” and “inactivating all subscriber contexts which are stored in the second network element for use of the first network element and have been updated before the latest restart of the first network element when the restart information of the message received in the receiving step differs from the restart information stored for the first network element,” as recited in claim 17. Claim 26 recites the patentable features of claim 17, but is drawn to a system for restoring a subscriber context. Further, *Koivunen* does not disclose or suggest “receiving means for receiving restart information from the another network element, the restart information indicating whether the another network element has been restarted and whether a received subscriber context has been updated in the another network element after the latest restart,” as recited in claim 31. Applicant submits that *Koivunen* does not disclose or suggest at least these features of the pending claims.

Koivunen does not disclose or suggest storing any restart information for the first network element at the second network element. The VLR of *Koivunen* does not store

restart information of the HLR to compare with restart information received in a message from the HLR. Instead, the HLR sends a restart indication to the VLR, which then updates itself. Only when a connection is to be established does the VLR look to the restart number from the HLR. Further, the VLR of *Koivunen* does not disclose or suggest creating any response to the restart number from the HLR.

Applicant also submits that *Koivunen* does not disclose or suggest inactivating all subscriber contexts which are stored in the second network element for use of the first network element when the restart information differs from the stored restart information. According to *Koivunen*, if the restart number from the HLR does not match the number in the HLR list, the VLR updates the subscriber and location data of the subscriber. This aspect of *Koivunen* does not disclose or suggest inactivating all subscriber contexts which are stored in the second network element for use of the first network element. Applicant submits the update of data described in *Koivunen* does not disclose or suggest the inactivation of all subscriber contexts. Thus, *Koivunen* does not disclose or suggest at least these features of the presently pending claims.

With regard to claim 31, applicant submits that *Koivunen* does not disclose or suggest a network element, as recited. For example, *Koivunen* does not disclose or suggest a receiving means for receiving restart information from another network element. Applicant submits that the HLR of *Koivunen* does not receive restart information from the VLR regarding whether the VLR has been restarted. This feature is also recited in claim 17. Further, *Koivunen* does not disclose or suggest sending any

restart information from the VLR to a network element such as the HLR. Thus, applicant submits that *Koivunen* does not disclose or suggest at least these features of the presently pending claims. Applicant respectfully requests that the anticipation rejection be withdrawn.

Claims 22, 23, 30 and 36 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Koivunen* in view of U.S. Patent No. 6,104,929 (Josse et al.). The Office Action took the position that *Koivunen* taught all of the elements of the claims except “wherein said network element is GPRS support node, and wherein said restart information is transmitted together with a tunnel management signalling message and subscriber context is a PDP context.” *Josse* was cited as providing those elements of the claims missing from *Koivunen*. Applicant submits that the cited references, either alone or in combination, do not disclose or suggest all the features of any of the presently pending claims.

Claims 22 and 23 depend from claim 17. Claim 17 is summarized above. Applicant submits that claims 22 and 23 recite the patentable features of claim 17, as well as other features.

Claim 30 depends from claim 26. Claim 26 is summarized above. Applicant submits that claim 30 recites the patentable features of claim 26, as well as other features.

Claim 36 depends from claim 31. Claim 31 is summarized above. Applicant submits that claim 36 recites the patentable features of claim 31, as well as other features.

Josse relates to a data packet radio service with enhanced mobility management. *Josse* describes the address of a latest serving GPRS support node being provided to a gateway GPRS support node by a special update serving GPRS support node address request message. In response to the address request message, the gateway GPRS support node sends an update service GPRS support node address response message that advises whether the updating of the address for the service GPRS support node at the gateway GPRS support node has been successful.

The Office Action states that *Koivunen* does not disclose or suggest all the features of claims 22, 23, 30 and 36. Applicant also submits that *Josse* does not disclose or suggest those features of the claims missing from *Koivunen*, as discussed above. For example, *Josse*, either alone or in combination with *Koivunen*, does not disclose or suggest storing restart information for the first network element at the second network element and inactivating all subscriber contexts which are stored in the second network element for use of the first network element and have been updated before the latest restart of the first network element when the restart information of the message received in the receiving step differs from the restart information stored for the first network element, as discussed above.

Josse describes sending an address request message, and, in response, an address response message that advises whether an update has been successful. *Josse* does not disclose or suggest sending restart information to store at the second network element, and comparing restart information with the stored restart information in sending its

address response message or updating its address information. Thus, *Josse* does not disclose or suggest at least these features of claims missing from *Koivunen*. Applicant submits that the cited references, either alone or in combination, do not disclose or suggest at least these features of the presently pending claims.

Further, claims 22, 23, 30 and 36 depend from independent claims 17, 26 and 31. If an independent claim is nonobvious, then any claim depending therefrom is also nonobvious (MPEP 2143.03). Because independent claims 17, 26 and 31 are nonobvious, then claims 22, 23, 30 and 36 are also nonobvious. For at least these reasons, applicant respectfully requests that the obviousness rejection be withdrawn.

New claims 37-39 also are allowable, at least for the reasons given above. Applicant also submits that new claims 37-39 recite additional patentable subject matter that is not disclosed or suggested by the cited references, either alone or in combination. Thus, new claims 37-39 are patentable over the cited references.

It is further submitted that each of claims 17-39 recite subject matter that is neither disclosed nor suggested by the cited references, either alone or in combination. It is therefore respectfully requested that all of claims 17-39 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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Enclosures: Additional Claim Fee Transmittal